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**On the species of TRYPOXYLON inhabiting  
America North of Mexico.**

BY WILLIAM J. FOX.

Through the kindness of Mr. E. T. Cresson, I have had the opportunity of working over this interesting genus of Fossorial Hymenoptera. I do not offer any suggestion as to the proper position of this genus, which has been placed in the Larridæ by most European authors. Mr. Cresson has placed it in the Crabronidæ, where I prefer to leave it for the present at least. Herein eight new species have been described, also two from Cuba and Mexico, respectively, have been added to our fauna. The species are, as a rule, easily distinguished, presenting characters which are readily seen. The types of all the species herein described as new, with the exception of *T. Johnsoni* (which is from my collection), and several of Packard's, will be found in the collection of the American Entomological Society.

The species are distinguished as follows :

FEMALES.

Metanotum not trisulcate.

Abdomen entirely black.

Metanotum punctured.

Wings blue-black; thorax clothed with black pile.....**albitarse.**

Wings with the anterior pair only fuscous, the posterior ones hyaline, except apical margin; thorax with pale pubescence.

**albipilosum.**

Wings hyaline, their apical margin and the marginal cell fuscous; thorax and abdomen with silvery pile.....**excavatum.**

Metanotum with an enclosed space.

Anterior portion of clypeus without a carina; wings, except apical margin, hyaline; posterior tarsi, except base and apex, whitish..**clavatum.**

Anterior portion of clypeus with a strong polished carina; wings fuscous; posterior tarsi black.....**projectum.**

Metanotum without enclosed space.

Metathorax sulcate its entire length, more deeply so posteriorly, the furrow somewhat interrupted at apex of metanotum.

Clypeus with a broad, quadrate, tooth medially (fig. 10).....**apicalis.**

Clypeus bidentate (fig. 9).....**bidentatum.**

Metathorax sulcate on its posterior face only; metanotum rugose; clypeus unidentate.....**frigidum.**

Metanotum with a raised disc, which is transversely striated; clypeus armed with a tooth medially; wings entirely hyaline.....**carinifrons.**

Abdomen banded with reddish.

Metanotum punctate; clypeus emarginate; base of second abdominal segment reddish.....**rubrocinctum.**

Metanotum striated.

Front with a strong projection; anterior half of clypeus strongly carinated.  
**tridentatum.**

Front with a longitudinal carina above the antennæ.

Antennæ entirely black.

Abdomen with the second segment above only reddish; posterior tarsi whitish medially.....**rufozonalis.**

Abdomen with the apex of first segment, the second entirely and the base of the third reddish.....**arizonense.**

Antennæ, except apical portion, reddish fulvous.

Thorax black, with golden pubescence; dorsulum finely punctured.

**texense.**

Collar and metanotum rufous; the dorsulum very strongly punctured.  
**collinum.**

Metanotum trisulcate; tarsi whitish, the joints of the median and posterior pair, at apex ringed with black.....**Johnsoni.**

## MALES.

Metanotum not trisulcate.

Abdomen not banded with reddish.

Metanotum punctate.

Wings blue-black; second abdominal segment beneath with a strong hook or spine.....**neglectum.**

Wings with the anterior pair only fuscous, the posterior pair hyaline except apical margin; thorax with pale pubescence..**albipilosum.**

Metanotum with an enclosed space; posterior trochanters armed with a spine; posterior tarsi whitish.....**clavatum.**

Metanotum on each side with a strong carina, which ends in a stout projection.....**projectum.**

Metanotum with a raised disc, which is transversely striated.

**carinifrons.**

Metanotum with a median furrow.

Legs, except tibial spurs, black; last joint of the antennæ as long as the three preceding ones united.....**frigidum.**

Metanotum not, or but slightly sulcate; last joint of the antennæ shorter than the three preceding ones united.....**bidentatum.**

Abdomen banded with reddish.

Posterior trochanters unarmed.

Metanotum punctate; base of second segment reddish..**rubrocinctum.**

Metanotum transversely striated, with two strong converging carinæ, which end in two stout projections.....**tridentatum.**

Posterior trochanters armed with a spine.

Antennæ entirely black.

Clypeus emarginate medially; legs entirely black, the posterior tarsi whitish medially.....**rufozonalis.**

Clypeus broadly incurved medially, with a tooth in the middle (see fig. 5); the base of the tibiæ and the posterior tarsi medially, reddish.

**spinosum.**

Antennæ, except apical portion, reddish fulvous.

Thorax black, with golden pubescence, the dorsulum finely punctured.

**texense.**

Thorax with the collar and the metanotum rufous, the dorsulum very strongly punctured.....**collinum.**

Metanotum trisulcate.

Fourth joint of the flagellum beneath, excavated at base, and strongly produced at apex; front with two strong diverging carinæ, originating near the base of the antennæ.....**carinatum.**

Fourth joint of the flagellum normal; front with a slight projection above the antennæ.....**ornatipes.**

### TRYPOXYLON Latr.

*Trypoxylon* Latr., Préc. Car. Gén. Ins. 1796.

*Apius* Jur. Nouv. Méth. de Class. Hym. t. i, Hym. p. 140. 1807.

#### 1. *Trypoxylon albitarse* Fab.

*T. albitarse* Fab., Syst. Piez. p. 180. Nr. 1, 1804.

*T. politus* Say, Bost. Jour. i, p. 373, Nr. 4, 1837.

*T. albitarse* Dhlb., Hym. Eur. i, pp. 286 and 509, ♂, 1845.

? *T. albitarse* Lep. Hist. Nat. Ins. Hym. iii, p. 288, Nr. 1, Pl. xxvii, fig. 3,

♀ ♂, 1845.

*T. politum* Pack., Proc. Ent. Soc. Phila. vi, p. 413, 1867.

*T. albitarse* Sauss., Reise d. "Novara" Zool. ii, Hym. p. 76, Nr. 1, ♀ ♂ (var. *mexicana*), 1867.

♀.—Black, shining; head and thorax clothed with black pubescence; front strongly and closely punctured, with a rather deep excavation on each side, before the emargination of the eyes, and medially with a somewhat Y-shaped carina; the vertex separated from the posterior ocelli by a furrow or excavation; clypeus strongly produced, with a strong medial carina, finely punctured, the anterior margin having three distinct sides, the medial side slightly incurved, with a very feeble tooth at its lateral angles; the space between the eyes, at top and below, about equal; antennæ reaching to the post-scutellum; thorax finely punctured, more finely so on the sides and beneath; collar deeply and transversely sulcate; the suture between the collar and dorsulum broad and deep; metanotum with a faint medial impressed line, on the posterior face of the metathorax transversely striated, very deeply and broadly channeled medially; wings black, with a violaceous reflection; posterior tarsi, except base and apex whitish. Abdomen smooth, before the apex of the first and second segments above with a transverse impressed line; the venter with sparse long hairs. Length .75—1.00 inch.

♂ unknown to me.

Occurs from Massachusetts to Central America; Brazil (Smith).

#### 2. *Trypoxylon neglectum* Kohl., Pl. iii, figs. 1, 12.

*T. neglectum* Kohl., Verh. zool.-bot. Ges. Wien. xxxiii, p. 340, pl. 18, fig.

3, ♂.

♂.—Black, shining; front subopaque, with rather strong and close punctures; clypeus strongly carinated, with fine separated punctures, the anterior margin strongly sinuate laterally, in the middle with a rounded projection; antennæ

subclavate, the first joint of the flagellum double the length of the following joint, the apical joint as long as the four preceding ones united; space between the eyes at top equal to the length of the first two joints of the flagellum united, beneath the distance is distinctly less. Thorax finely punctured; collar deeply and transversely sulcate; suture between the collar and dorsulum not widely separated; dorsulum with a longitudinal, impressed line on each side near the tegulæ; scutellum with a strong medial impression, the postscutellum feebly so; metathorax as in the preceding species, except that the posterior face is rugose; wings brownish black, without violaceous reflection, hyaline at base; posterior femora beneath, before the apex, with a strong lamina or swelling, the posterior tarsi whitish medially; the medial and posterior coxæ are excavated above. Abdomen smooth, the first segment as long as the two following ones united, much broadened at apex, beneath it is armed with a long hook or curved spine (see fig. 12), before the apex above with a transverse impression; the base of the third segment beneath depressed; the second to seventh segment beneath with a few long stiff hairs. Length .60—.80 inch.

Occurs in Pennsylvania, South Carolina (Kohl); Georgia, Florida, Iowa.

This species closely resembles the preceding, but can be distinguished by the strongly sinuated clypeus and the posterior face of metathorax being rugose.

### 3. *Trypoxylon albopilosum* n. sp. Pl. iii, fig. 2.

♀.—Black; head and thorax clothed with cinereous pubescence; front convex, subopaque, with strong, close punctures, or being slightly subrugose; vertex, when seen from the front, notched medially, with two lunate tubercles, which connect between the posterior ocelli; the ocelli connected by a furrow, which extends down to a slight projection above the antennæ; eyes from the emargination to the vertex with a distinct margin; face, cheeks and clypeus with bright silvery pubescence; clypeus anteriorly strongly carinated, the anterior margin medially slightly incurved (see fig.); first joint of flagellum not double the length of the succeeding one, the second and third joint about equal. Thorax finely punctured; collar not transversely sulcate; dorsulum with an impressed line near the tegulæ; scutellum and postscutellum impressed medially; metathorax above and on the sides finely punctured, the posterior face with strong transverse striations, strongly sulcate medially, the metanotum before the apex with a shallow depression, which is finely and transversely striated; legs sparsely clothed with sericeous pile, the posterior tarsi whitish, except at base and apex; anterior wings fuliginous, except extreme base, which is hyaline, the posterior wings hyaline, except their apical margin, which is fuscous. Abdomen smooth, shining, with sericeous pile, first segment nearly as long as the two following combined, with two transverse tubercles near the base above, second segment, when seen from the side, with the upper surface bent inward and strongly raised or swollen at base; last segment above with as light carina, medially, clothed sparsely with long brownish hairs. Length .75 inch.

♂.—Space between the eyes at top equal to the length of the first joint of flagellum, beneath it is only but slightly wider than the length of the second joint; clypeus not or but slightly produced, the anterior margin medially in-

curved; face, clypeus, inner orbits to the eye emargination, cheeks, and a line extending from the tegulæ downward, bright silvery; second segment of abdomen more strongly bent inward above, but not so strongly raised at base, the sixth and seventh segment slightly carinated. Length .50—.75 inch.

Occurs in Pennsylvania, New Jersey, Virginia, Georgia, Texas, Illinois, Kentucky.

This species can be at once distinguished from either of the two preceding ones by its smaller size, and the thorax being clothed with pale pubescence, and from *clavatum* Say, by not having the enclosed space on metanotum. It also agrees well with the figure of *T. albittarse* Fab. given by Lepelletier de St. Fargeau in his Hist. Nat. Ins. Hym. iii, Pl. 27, fig. 3.

#### 4. **Trypoxylon excavatum** Sm.

*T. excavatum* Sm., Cat. Hym. Brit. Mus. iv, p. 380, 1856, ♀ ♂.

♀.—Head and thorax clothed with silvery pubescence, more dense and bright from the eye emarginations downward, cheeks, the sutures of the thorax, and the posterior face of the metathorax, laterally: front convex, opaque, subrugose, with a distinct medial impressed line extending from the lower ocellus to a strong projection above the antennæ; vertex not raised or depressed; the anterior and posterior ocelli connected by a strong furrow; eyes from the emargination upward with a distinct margin; clypeus emarginate medially; space between the eyes at top and bottom about equal to the length of the first joint of flagellum; antennæ reaching to the apex of scutellum. Thorax finely and sparsely punctured, the prothorax bispinose beneath; dorsulum with a slight medial impression extending from base to apex; scutellum medially impressed; metanotum with a shallow excavation, which becomes deeper towards the apex, and forms into a deep sulcus on the posterior face of metathorax, the excavation with very fine transverse striations at its apex; wings hyaline, except their apical margin and the marginal cell, which are fuscous; legs entirely black, covered with sericeous pile. Abdomen smooth, shining, clothed with sericeous pile, which is more obvious and silvery on the basal half of the segments; first segment scarcely tumid at apex, about one-third longer than the succeeding one; the third segment slightly concave beneath. Length .45 inch.

♂.—Differs from the ♀ by its smaller size; the narrower front, the space between the eyes being less beneath than above; the clypeus being more strongly emarginate, and the third segment being bituberculate beneath. Length .38 inch.

Occurs in Cuba, Jamaica (*Smith, Fox*), New York and Illinois.

This species can be distinguished by the silvery ornamentation of the head and thorax.

#### 5. **Trypoxylon clavatum** Say. Pl. iii, fig. 13.

*T. clavatus* Say, Bost. Jour. i, p. 374, ♀ ♂, 1837.

*T. clavatum* Pack., Proc. Ent. Soc. Phila. vi, p. 414, ♀.

♀.—Front convex, strongly punctured, with a medial impression extending from lower ocellus to a projection above the antennæ; anterior and posterior

ocelli connected by a furrow; vertex with two smooth, polished tubercles; eyes from the emargination upward with a distinct margin; clypeus emarginate; space between the eyes at top equal to the length of the second and third antennal joints united, beneath it is about equal to the length of the first joint of the flagellum; from the emargination of the eyes downward, the cheeks, sutures of the thorax, and posterior face of metathorax, silvery. Thorax shining, finely punctured, sparsely clothed with pale pubescence; scutellum and postscutellum not impressed medially; metathorax above with an irregularly striated, enclosed space, the posterior face strongly furrowed medially, strongly rugose; wings hyaline, apical margin fuscous; legs with sericeous pile, the posterior tarsi whitish, except base and apex; first segment of abdomen about one-third longer than the following one, the apex strongly raised above the base of second segment, the second segment at apex slightly raised above the base of the following segment. Length .45—.50 inch.

♂.—Differs from the ♀ by the narrower front, the length of the last joint of antennæ is equal to the three preceding joints united, and by the posterior trochanters being armed with a spine. Length .45—.50 inch.

Occurs from Canada (*Provancher*) to Texas.

#### 6. **Trypoxylon projectum** n. sp.

♀.—Front with strong, separated punctures, with a medial impression, very strongly produced above the antennæ into a projection; eyes from the emargination upward with a distinct margin; space between the eyes at the vertex equal to the length of the second and third joints of the flagellum united, beneath it is slightly less; the second joint of the flagellum more than half as long as the preceding one; clypeus, except at base, with a strong medial carina, the anterior margin acutely emarginate, with a slight tooth on each side of the emargination; from the emargination of the eyes downward, the posterior orbits, sutures of the thorax and posterior face of metathorax, laterally, with silvery pubescence. Thorax finely and sparsely punctured, clothed with short, pale pubescence; dorsulum with a lateral impressed line near the tegulæ; metanotum transversely striated, with a strong, curved carina on each side, a deep sulcus begins between the apices of the carinæ and extends down on the posterior face, which is rugose, to the apex; wings fusco-hyaline, with darker apical margins; posterior tarsi whitish medially. Abdomen with the first segment strongly tumid at apex, not much longer than the following segment; the third segment slightly raised at base above. Length .60 inch.

♂.—Differs from the ♀ by having the clypeus more broadly emarginate, the first joint of the flagellum being slightly longer than the two following ones united and the apical joint being as long as the three preceding ones together; space between the eyes at vertex equal to the length of the first and second joints of the flagellum united, beneath it is slightly less; the carina of the metanotum end in two stout projections, the posterior face of metathorax coarsely and transversely striated; the tarsi all more or less whitish. Length .50 inch.

Occurs in Louisiana; Florida (*C. W. Johnson*).

Differs from the preceding species by its stouter legs, carinated metanotum and the stout frontal projection.

**7. Trypoxylon carinifrons** n. sp.

♀.—Black; front coriaceous, convex, with a short, distinct, longitudinal carina above the antennæ; the anterior ocellus situated in a rather deep pit, from which originates a strong impressed line, which extends down to the frontal carina; clypeus with a slight mesial tooth; space between the eyes at the vertex equal to the length of the first, second and third joints of the flagellum united, beneath is equal to the length of the second and third joints of the antennæ united; antennæ clavate, second joint of the flagellum more than half as long as the preceding joint, the apical joint nearly as long as the two preceding ones united; mandibles reddish; vertex finely punctured; from the emargination of the eyes downwards, the cheeks, suture between collar and dorsulum, sides of thorax and the metathorax, posteriorly, with bright silvery pubescence. Thorax finely punctured, the dorsulum shining, with a short, oblique, deep, impressed line on each side near the tegulæ; scutellum not impressed medially, shining; metanotum with a shield-shaped, somewhat elevated disc, which covers almost its entire surface, the disc finely and transversely striated, sulcate medially, the posterior face of metathorax with a medial sulcus, which is much deeper at the base, subrugoso-striate; wings hyaline throughout, the stigma and nervures brownish, except at base, where, together with the tegulæ, they are yellowish. Legs black, the tarsi fuscous, the tibial spurs slightly whitish. Abdomen smooth, the base of the second to fifth segment with sericeous pile; first and second segments of nearly equal length, the first the longest. Length .25 inch.

♂.—Differs from the ♀ by the antennæ being very strongly thickened from the ninth joint, the apical one being acute at tip and as long as the four preceding ones together; the clypeus is more strongly dentate; the legs are brownish, with the tarsi slightly marked with whitish. Length .25 inch.

Occurs in Texas.

Closely allied to *T. chichimecum* Sauss. from Mexico, but the clypeus is not emarginate, as in that species.

**8. Trypoxylon apicalis** n. sp. Pl. iii, fig. 10.

♀.—Front subopaque, slightly roughened, with a distinct, medial, impressed, glabrous line extending from lower ocellus to a slight projection above the antennæ; the anterior ocellus situated in a slight pit, the vertex excavated or depressed behind the posterior ocelli; clypeus rather broadly produced medially, the production somewhat incurved; antennæ not clavate, the first joint of the flagellum about one-third longer than the second one; face, clypeus, cheeks, thorax on the sides and beneath, with silvery pubescence. Thorax very finely punctured; collar with a transverse sulcus; dorsulum without lateral impressed lines; scutellum impressed medially, the postscutellum feebly so; metanotum sulcate medially, obliquely striate; the posterior face finely punctured, sulcate medially, the sulcus being much broader and deeper at the base; wings hyaline, their apical margin fuscous, tegulæ and mandibles ferruginous; legs black, the femora and tibiæ sparsely clothed with silvery pile, the spines of the tibiæ ferruginous or brownish; tarsi fuscous. Abdomen smooth, shining; first segment strongly sulcate above, on its basal half, and is about one-third longer than the following segment; the last segment clothed beneath with sparse long hairs. Length .48 inch.



Occurs in Canada, and at Beverly, Mass. It is larger than either of the two following species, to which it is related.

9. **Trypoxylon frigidum** Sm.

*T. frigidum* Sm., Cat. Hym. Brit. Mus. iv, p. 381, 1856, ♀.

*T. frigidum* Pack., Proc. Ent. Soc. Phila. vi, p. 415, 1867, ♂.

♀.—Front coriaceous, slightly roughened, with an impressed line extending from lower ocellus, which is situated in a pit, to a strong frontal projection above the antennæ; clypeus with a large quadrate tooth medially; first and second joints of the flagellum about equal; space between the eyes at the top equal to the length of the first and second joint of the flagellum united; beneath, it is a little less; face, clypeus, cheeks and the thorax on the sides and beneath with silvery pubescence. Thorax with exceedingly fine punctures; the collar with a transverse sulcus, which is interrupted medially; dorsulum with an impressed line on each side near the tegulæ; scutellum and postscutellum not impressed; metanotum with strong, slightly oblique striations, with a slight medial impression; posterior face of metathorax with a strong sulcus, which is very broad and deep at the base; wings hyaline, their apical margin slightly fuscous; tegulæ and mandibles ferruginous; legs black, with sparse silvery pile, the tarsi fuscous, the tibial spurs reddish brown or whitish. Abdomen smooth, shining, the first segment strongly sulcate above, on its basal half, and is about one-third longer than the succeeding segment. Length .30 inch.

♂.—Differs from the ♀ by having the last joint of the antennæ as long as the three preceding ones united; the clypeal tooth is indistinct, and the wings are strongly iridescent. Length .30 inch.

Occurs from Hudson's Bay (Smith) to Virginia, westward to Mt. Hood, Oregon.

10. **Trypoxylon bidentatum** n. sp. Pl. iii, fig. 9.

♀.—Closely resembles the preceding species, but is distinct by having the clypeus bidentate medially; the second joint of the flagellum shorter than the first; the metathorax strongly sulcate above and on its posterior face; the tibial spurs black; the wings are strongly iridescent, fusco-hyaline. Length .25—.30 inch.

♂.—The apical joint of the antennæ as long as the four preceding joints united; the first segment is more linear than in the ♀, and the clypeal teeth not so distinct. Length .25 inch.

Occurs with the preceding.

11. **Trypoxylon rubrocinctum** Pack. Pl. iii, fig. 7.

*T. rubrocinctum* Pack., Proc. Ent. Soc. Phila. vi, p. 416, ♀, 1867.

♀.—Front convex, rugosely punctured, with a medial impressed line extending from lower ocellus to a strong projection above the antennæ; vertex depressed medially; clypeus strongly emarginate; first joint of flagellum a little more than one-third longer than the second joint; space between the eyes at the vertex equal to the length of the first joint of the flagellum, beneath it is a little less; eyes from the emargination upward with a distinct margin; mandibles, tegulæ, femora at apex, the tarsi at base, and the basal half of the second segment above, and beneath entirely reddish fulvous; from the emargination of the

eyes downwards, cheeks, sutures between collar and dorsulum, line on pleurum and the metathorax posteriorly, with silvery pubescence. Thorax shining, with fine separated punctures; scutellum and postscutellum medially impressed; metanotum finely punctured, with a strong excavation posteriorly, from which begins a deep sulcus, extending down to the apex of metathorax, the posterior face strongly rugose; wings hyaline, the apical margin slightly fuscous, tubial spurs whitish. Abdomen shining, the first and second segments petioliform, the first segment about one-third longer than the second, with two transverse tubercles near the base above. Length .40 inch.

♂.—Differs from the ♀ as follows: Antennæ thickened toward the apex, the first joint of the flagellum nearly twice the length of the following joint; space between the eyes at top equal to the length of the second and third joints of the antennæ united, beneath it is less than the length of the first joint of the flagellum. Length .35—.40 inch.

Occurs from New York to Florida.

Can be at once distinguished from *tridentatum* by having the metanotum punctured.

12. ***Trypoxylon tridentatum*** Pack. Pl. iii, fig. 4.

*T. tridentatum* Pack., Proc. Ent. Soc. Phila. vi, p. 417, ♀, 1867.

♀.—Front with strongly separated punctures, rather deeply impressed medially, the impression extending from the lower ocellus to a very strong projection above the antennæ; vertex impressed medially; clypeus very strongly carinated on its anterior half, emarginate medially, the sides of the emargination produced into a slight tooth; mandibles obscurely rufous; the second joint of the flagellum more than half the length of the preceding joint, the second and third joint nearly equal; space between the eyes at vertex less than the length of first and second joints of the flagellum united, beneath it is about equal to the length of the second and third joints of the flagellum; eyes from the emargination to the vertex with a strong margin; from the emargination of the eye downwards, thorax on the sides and beneath, and the sutures of the thorax with silvery pubescence. Thorax shining, finely and distinctly punctured; dorsulum very slightly impressed laterally; scutellum and postscutellum not impressed medially; metathorax transversely striated, above with two strong, curved, converging carinæ, with a medial impression, the furrow extending down to the apex of, and is much stronger on, the posterior face; wings hyaline, the apical margin fuscous, the nervures blackish; legs with sericeous pile, the posterior tarsi whitish medially, the anterior tibiæ rufous at base; first and second segments reddish, the former black above, and about one-fifth longer than the second, which is very slightly raised at base; the remaining segments above with silvery pile in certain lights. Length .45—.55 inch.

♂.—First joint of the flagellum more than twice the length of the succeeding one, the apical joint slightly longer than the three preceding ones united; front scarcely impressed; the carinæ on the metathorax strongly projecting. Length .50—.55 inch.

Occurs throughout the United States. Specimens from New York, Texas, Montana, California.

13. **Trypoxylon rufozonalis** n. sp. Pl. iii, fig. 3.

♀.—Black, shining; front strongly and rugosely punctured, strongly impressed medially, with a short longitudinal carina above the antennæ; clypeus fine punctured, roundly emarginate medially, slightly carinated anteriorly; vertex depressed medially; space between the eyes at vertex and beneath, equal to the length of the second and third antennal joints united; head and thorax in the usual places with silvery pubescence. Thorax finely punctured; dorsum with a strong, short, impressed line on each side; postscutellum slightly impressed medially; metathorax above with an enclosed space, which is transversely and obliquely striated, the posterior face rugose, strongly channeled medially; legs black, the posterior tarsi whitish medially; wings hyaline, apical margin fuscous, the nervures brownish; first segment of abdomen about one-third longer than the second, the latter strongly raised at base; first segment black, reddish along the sides, the second segment entirely reddish, the rest of the abdomen black, the third segment has a reddish spot on the sides. Length .55 inch.

♂.—First joint of flagellum more than twice the length of the following joint, the apical joint as long as the three preceding ones united; clypeus more broadly emarginate than in the ♀, not carinated; posterior trochanters armed with a spine, the posterior tarsi whitish, except at base and apex; first segment of abdomen more than one-third longer than the following one, which is not raised at base. Length .55 inch.

Occurs in Colorado.

14. **Trypoxylon arizonense** n. sp. Pl. iii, fig. 13.

♀.—Front strongly punctured, medially impressed, with a short longitudinal carina above the antennæ; vertex not or but slightly depressed medially; eyes from the emargination to the vertex with a distinct margin; clypeus emarginate medially, not carinated; first joint of the flagellum nearly twice the length of following joint; space between the eyes at vertex the same as in the preceding species, beneath it is a little less; mandibles rufous; head and thorax with silvery pubescence, more obvious from the emargination of the eyes downwards, cheeks, sutures of the thorax, on the sides and beneath and the metathorax. Thorax finely punctured, shining; metathorax with fine transverse striations; the metanotum with a strong depression, from which begins a strong medial channel, which extends to the apex of metathorax; wings hyaline, apical margin fuscous, the nervures brown; legs black, the tibiae and tarsi clothed with sericeous pile, more strongly so on the tarsi; tegulae fulvous; the first, second and base of the third segment reddish, the first segment on the basal two-thirds above, black; second segment strongly raised at base. Length .55 inch.

Occurs in Arizona.

15. **Trypoxylon spinosum** Cam. Pl. iii, figs. 5, 6.

*T. spinosa* Cameron, Biol. Cent. Am. Hym. ii, p. 46, Pl. iv, figs. 8, 8a, 8b, ♂.

♂.—Black, shining; front coarsely punctured, medially impressed, above the antennæ with a short longitudinal carina; space between the eyes at vertex a little broader than the first joint of the flagellum is long, beneath it is equal to the length of the second and third joints of the flagellum united; first joint of the flagellum twice the length of the following joint, slightly longer than the second and third joints united, last joint a little longer than the two preceding ones united; clypeus broadly incurved medially, with a tooth in the middle of the incurvation; from the emargination of the eyes downwards the cheeks and sutures of the thorax and the metathorax with golden pubescence, the thorax on sides and beneath with silvery pubescence. Thorax finely punctured; meta-

thorax above finely punctured, excavated toward the truncation, a strong furrow extends from the apex of the excavation to the apex of metathorax; posterior trochanters armed with a spine; posterior tarsi whitish medially; wings fulvous, the apical margin darker. Abdomen clothed with golden pile, the first segment one-third longer than the second, which has the basal half reddish, and not raised at base. Length .52 inch.

Occurs in Texas and Mexico.

16. **Trypoxylon texense** Sauss. Pl. iii, fig. 8.

*T. texense* Sauss., Reise d. "Novara." Zool. ii, Hym. p. 77, ♀, 1867.

♀.—Front strongly punctured, medially impressed, with a carinæ above the antennæ; first joint of flagellum almost twice the length of the following joint; space between the eyes at the top equal to the length of the second and third joints of the antennæ united, beneath it is slightly less; clypeus as in the preceding species; vertex depressed medially; first five joints of the antennæ, mandibles, tegulæ, the anterior and medial femora at apex, the coxæ and trochanters at apex, tibiæ, tarsi and first two segments of the abdomen, reddish brown; the first segment above with a brownish stain on basal portion; from the eye emargination downward, cheeks, sutures of the thorax, on the sides and beneath and the metathorax with golden pubescence. Thorax shining, finely punctured, the dorsulum with an impressed line on each side; metanotum with a V-shaped enclosure, which is finely and transversely striated, the enclosure open at apex, from which begins a strong sulcus, which extends to the apex of metathorax, the latter on the sides and posteriorly, rugose; wings golden, nervures yellowish; legs with golden pile; first segment sulcate above, on its basal half, about one-third longer than the following segment, which is not raised at base; the apical margins of segments 3-6 golden; all the segments clothed with golden pile. Length .52 inch.

♂.—Front very finely and closely punctured, clypeus armed with three teeth, the outer one acute, the medial one rounded (see fig.); first joint of the flagellum as long as the two following ones united; scutellum with a distinct medial impressed line; the apex of the metanotum laterally, strongly produced or carinated; posterior trochanters armed with a spine; first and second segments of the abdomen about equal in length, the first at apex scarcely raised above the base of the second, which has a transverse impressed line before its apex. Length .58 inch.

Occurs in Texas. I may be mistaken in regard to the ♂ of this species, as the specimens described herein as the ♂ are much larger, and the characters so much different from those of the ♀.

17. **Trypoxylon collinum** Sm.

*T. collinum* Sm., Cat. Hym. Brit. Mus. iv, p. 381, ♀, 1856.

*T. collinum* Pack., Proc. Ent. Soc. Phila. vi, p. 415, ♀ ♂, 1867.

♀.—Front strongly punctured, medially impressed, with a slight carinæ above the antennæ; vertex depressed medially; space between the eyes at vertex equal to the length of the second and third joints of the antennæ united, beneath it is equal to the length of the first joint of the flagellum; clypeus emarginate medially; first eight joints of the antennæ, anterior portion of clypeus, except the margin, mandibles, except apex, prothorax, tegulæ, metanotum, legs and the first two segments of the abdomen, reddish; face, clypeus, suture between the collar and dorsulum, and the thorax beneath sparsely clothed with golden pubes-

cence, the cheeks and a line beneath the tegulæ, silvery. Thorax strongly punctured; scutellum slightly impressed medially; metanotum with a V-shaped enclosure, which is strongly rugose, the posterior face strongly channeled medially; wings strongly fuscous, hyaline at their extreme base; first segment of the abdomen about one-third longer than the second, which is strongly raised at base. Length .55—.60 inch.

♂.—Differs from the ♀ by having the first joint of the flagellum slightly longer than the two following ones united, the apical joint as long as the three preceding joints together; the enclosed space on the metanotum is strongly and transversely striated, and the posterior trochanters are armed with a spine. Length .55 inch.

Occurs in Florida. Easily distinguished by red collar and metanotum.

#### 18. *Trypoxylon carinatum* Say.

*T. carinatus* Say, Bost. Journ. i, p. 374, ♂.

♂.—Front coriaceous, very finely punctured, slightly concave, with a medial impressed line, extending from lower ocellus to the angle of sharp diverging carina, situated above the antennæ; the ocelli situated in slight depressions or pits, the pit in which the anterior ocellus is situated much more distinct; when seen from above the front has the appearance of being produced into a very acute angle; clypeus slightly incurved medially or subtruncate; first and second joints of the flagellum about equal, the fourth joint beneath, at the apex, excavated, the apex strongly produced; the apical joint as long as the two preceding ones united; space between the eyes at the top equal to the length of the three basal joints of the flagellum united, beneath it is distinctly less; face, clypeus, cheeks, suture between collar and dorsulum, the thorax beneath and the metathorax posteriorly sparsely so, with silvery pubescence. Thorax finely punctured; the scutellum and postscutellum not impressed medially; metanotum trisulcate above, the lateral furrows oblique, on the posterior face with a deep medial channel above with exceedingly fine, slightly oblique striæ; wings hyaline, nervures and stigma dark brown; outer margin of tegulæ, the anterior femora in part, the tibiæ and tarsi entirely, the posterior and medial tibiæ at the base and the medial tarsi, whitish; the greater part of the tegulæ and the mandibles ferruginous. Abdomen shining, the first segment but slightly longer than the following one, and deeply sulcate on the basal half above, the sulcus broader and deeper at the base. Length .30 inch.

Occurs in "Indiana" (Say). A specimen before me without locality. Probably from Illinois.

#### 19. *Trypoxylon Johnsoni* n. sp.

♀.—Front convex, flattened medially, without medial impressed line, subrugose, with a strong carina above the antennæ; the ocelli situated in depressions, the anterior one most distinct; clypeus incurved medially; first joint of the flagellum about one-fifth longer than the following joint; space between the eyes at the vertex equal to the length of the second and third joints of the antennæ united, beneath it is equal to the length of the second joint of the flagellum; inner orbits from the emargination of the eyes downwards, the face, clypeus, cheeks, suture between the collar and dorsulum, sides of thorax and the metathorax on the sides with silvery pubescence; scape anteriorly, the mandibles, the anterior femora in part, and the base of the second and third segments of the abdomen reddish fulvous; the tegulæ, the anterior tibiæ and tarsi entirely, the base of the medial and posterior femora and the joints of the tarsi, except apex, whitish, the rest of the anterior and posterior legs reddish brown, the

posterior pair black. Thorax finely punctured, the dorsulum with a short impressed line on each side; metanotum with fine transverse striations, trisulcate, the median sulcus longest and broadest, the posterior face deeply sulcate medially; wings hyaline, nervures and stigma black. Abdomen shining, the first segment sulcate above on its basal half, about one-third longer than the following segment. Length .38 inch.

Occurs in Florida. Collected by C. W. Johnson.

## 20. *Trypoxylon ornatipes* n. sp.

♂.—Front subopaque, convex, with a medial impressed line extending from lower ocellus to a slight longitudinal carina above the antennæ; the anterior ocellus placed in a deep pit; clypeus with a small quadrate tooth medially; the last joint of the antennæ equal to the four preceding joints united; the scape in front, the tegulæ, the anterior and posterior legs and the basal portion of second segment on the sides and beneath fulvous, the base of the posterior femora and the joints of the tarsi at base whitish, the rest of the legs black or brownish. Thorax finely punctured; metathorax trisulcate above, the medial furrow broader than the lateral ones, which are somewhat indistinct and much shorter than the medial one, the mesonotum shining, transversely striated, the posterior face very deeply and broadly channeled medially; wings hyaline, iridescent. Abdomen shining; the first segment at least one-third longer than the following segment, above strongly sulcate medially, the sulcus interrupted between the middle and apex. Length .28 inch.

Occurs in the District of Columbia.

The cocoon of this species is cylindrical, rounded at each end, and about .40 inch. in length. This may be the ♂ of *T. Johnsoni*.

## Unidentified Species.

*T. californicum* Sauss.. Reise d. Novara. Zool. ii, Hym. p. 78, ♀, 1867. Cal.

*T. pennsylvanicum* Sauss., ibid. p. 82, ♀. Penn.

*T. striatum* Prov., Add. Hym. Queb. p. 283, ♀. (Pub. in Le Nat. Canadien.) Can.

*T. sulcus* La Munyon, Proc. Nebr. Asso. Ad. Sc. March, '77 (= *texense*?). Nebr.

*T. unicolor* Bol., Ins. Afr. et Amer. p. 116, Hym. Pl. iii, fig. 3. This probably does not belong to this genus. Car.

*T. xantianum* Sauss., l. c. p. 78, ♂ ♀, 1867. L. Cal.

## EXPLANATION OF PLATE III.

- Fig. 1.—Head, showing clypeus of *T. neglectum*.  
 “ 2.—Head of *T. albipilosum*.  
 “ 3.—Head, from above, of *T. rufozonalis* and *T. arizonense*.  
 “ 4.—Head, from above, of *T. tridentatum*.  
 “ 5.—Head, showing clypeus of *T. spinosum*.  
 “ 6.—Abdomen from the side, of *T. spinosum*.  
 “ 7.—Abdomen, from the side, of *T. rubrocinctum*.  
 “ 8.—Anterior margin of clypeus of *T. texense*, ♂.  
 “ 9.—Anterior margin of clypeus of *T. bidentatum*.  
 “ 10.—Anterior margin of clypeus of *T. apicalis*.  
 “ 11.—Posterior leg of *T. clavatum* ♂, showing spined trochanter.  
 “ 12.—First abdominal segment of *T. neglectum*, from the side.  
 “ 13.—First two abdominal segments of *T. arizonense*, and *rufozonalis*, ♀, from the side.

